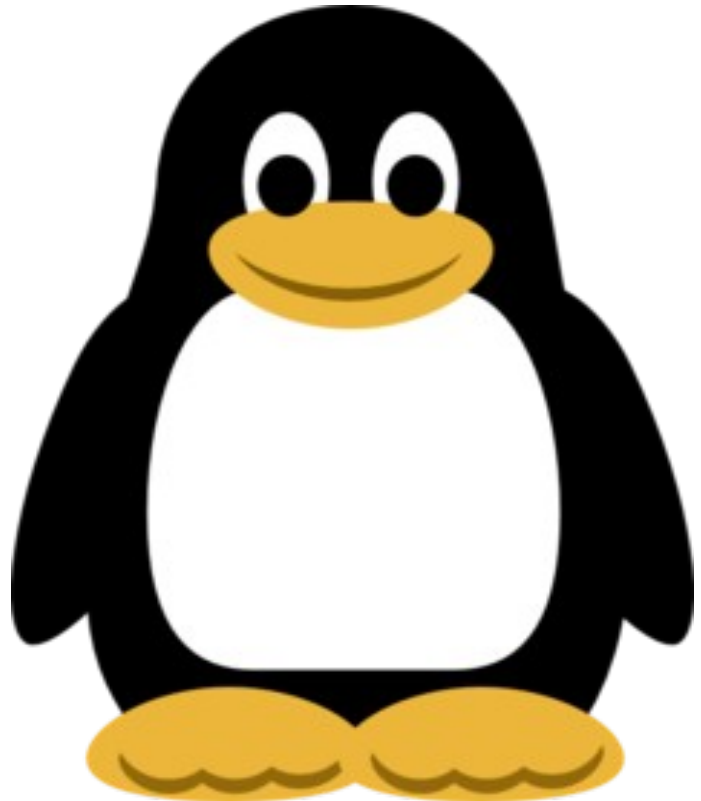


Linux Applications For Internet Broadcasters



Written By
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www.ScenicRadio.Com

Relaxing Entertainment for the World



www.BroadcastingWorld.Com

Global Broadcast Information Portal

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en.m.wikipedia.org/wiki/File:Pieter_Claeszoon_-_Still_Life_with_a_Skull_and_a_Writing_Quill.JPG

About The Author

David Childers is the Content Manager for the Global Broadcasting portal www.BroadcastingWorld.com. He is very active in the Internet broadcast industry and has written numerous guides and a book about this growing technological field. He is also the webmaster of www.ScenicRadio.com, the global destination for relaxing entertainment.

Mr. Childers' work has been cited in several national and International publications, including these:

Five Essays on Copyright In the Digital Era
Turre Publishing

Research On High-Profile Digital Video Production
Digital Content Association of Japan

Video Podcasting in Perspective: The History, Technology, Aesthetics and Instructional Uses of a New Medium
Journal of Educational Technology Systems

Video Podcasting: When, Where and How it's Currently used for Instruction
The National Convention of the Association for Educational Communications and Technology

IP Packet Charging Model For Multimedia Services
National University of Rwanda

Preservation of audiovisual mediums: Problems and challenges
Platform for Archiving and Preservation of Art on Electronic and Digital Media

P2P Technology Trend and Application to Home Network
Electronics and Telecommunications Research Institute Journal

Peer To Peer Computing - The Evolution of a Disruptive Technology
Idea Group Publishing

Peer-to-Peer Systems and Applications
Lecture Notes In Computer Science
Springer Berlin / Heidelberg

Feedback

Please feel free to contact the author if you have any questions or comments. Your feedback is greatly appreciated.

You can contact the author here: www.KL7AF.com

Foreword

Good Day,

Open source software powers the infinite reach of the Internet and has achieved global recognition for its ability to perform. This same software can be used to operate a broadcast station (Internet or terrestrial) with dependability and functionality. There is life beyond Bill Gates, and there are alternatives to Microsoft Windows.

The musical inspiration for this guide is Freud - World of wonders.

I would like to thank Scarlet Coker for providing assistance with the editing of the manuscript and James Davey at Broadcasting World for allowing me the opportunity to create this guide.

It is my sincere hope that the reader finds this guide beneficial.

David Childers

May 2012

Posvečeno Neži Vidmar.



Ipsa scientia potestas est.

Unix, MS-DOS, and Windows NT (also known as the Good, the Bad, and the Ugly).

Matt Welsh

Index

- Introduction
- Desktop Environment
- Windows Emulation
- Jackaudio
- Station Automation and Streaming
- Audio
- Video
- DJ and VJ Software
- Multimedia Transcoder
- Multimedia File Meta Tag Editors
- Graphics
- General Tools
- Online Services
- Desktop Publishing
- System Software

Introduction

Open source software has established itself as a credible alternative to proprietary / closed source software. The majority of the Internet networking grid runs on open source software and has achieved an excellent operational record. One of the greatest strengths of open source software is anyone can make contributions, correct flaws or add new features. It is a community effort for the greater good.

Open source software can be used to run all aspects of a broadcast station.

These include:

- Production.
- Distribution.
- Administration.

The Linux operating system can be run on a variety of hardware platforms, without excessive system resource requirements. It can easily be run on the latest hardware or older computer systems. There is also a growing catalog of system drivers available for a wide variety of hardware components as well. Most software applications used on Linux systems are created by open source software developers and are available for free at various software repositories. These software packages can be used for a broad range of applications.

There is no need to break the bank for acquiring and using software for a broadcast station. Internet multimedia distribution can be achieved with solid performance at minimal cost and fuss.

Desktop Environment

The term, "Desktop Environment," refers to the graphical user interface used to access, configure, or modify frequently accessed features of an operating system.

Multimedia manipulation or processing requires a substantial share of a computers resources. It is important to use a desktop environment that will not tie up vital computer resources. Functionality and ease of use are equally important for the system user.

LXDE

Lightweight desktop environment software.

www.lxde.org

Windows Emulation

Wine

This application enables other operating systems to run Windows software.

www.winehq.org

Package search:

- Fedora
- RedHat
- OpenSuse
- Suse
- RHEL

rpm.pbone.net

- Debian

www.debian.org/distrib/packages

- Ubuntu

packages.ubuntu.com

PlayOnLinux

A graphical front end for the Wine software compatibility layer.

www.playonlinux.com/en/

Wibom

Software that is used to manage Wine software bottles.

wibom.sourceforge.net

Winecfg

Graphical environment configuration tool for Wine, designed to easily edit the windows registry.

wiki.winehq.org/winecfg

Winetricks

A helper script that downloads and installs various redistributable runtime libraries.

wiki.winehq.org/winetricks

Q4Wine

A qt4 graphical environment for Wine.

sourceforge.net/projects/q4wine/

WineXS

Simple graphical environment to configure Wine.

www.tsx.nl/winexs.html

Jackaudio

Jackaudio

Software that can take the audio output of one application and send it to another software application, without the use of cables or hardware.

www.jackaudio.org

Additional Jackaudio Applications

QjackCtl

Qt graphical environment to control the Jackaudio sound software.

qjackctl.sourceforge.net

JAMin

Jackaudio Connection Kit (JACK) audio mastering interface.

jamin.sourceforge.net

JACK Audio plugins

- Stereo valve (tube) overdrive amplifier.

www.linuxdsp.co.uk/download/jack/download_odv2_jack/index.html

- JP1 Jack Patchbay.

www.linuxdsp.co.uk/download/jack/download_jp1_jack/index.html

- Gate/expander with sidechain.

www.zamaudio.com/?p=112

- Monosynth - Simple monophonic synthesizer with 2 oscillators, multimode filter and an envelope.
- Organ - Versatile organ/pad synthesizer, capable of producing many types of sounds.
- Compressor - Dynamic compressor with a variety of settings.
- MultiChorus - Multi-tap stereo chorus with adjustable number of voices.
- Flanger - Simple stereo flanger with linear interpolation.
- Reverb - Simple reverb with basic controls and relatively neutral sound.
- Multimode filter - Selectable 12dB/24dB/36dB rolloff, lowpass or highpass with inertia/smoothing for cutoff.
- Vintage delay - Simple simulation of tape echo, with a filter in a feedback loop and BPM based time setting.
- Phaser - Basic stereo phaser with typical settings.
- Rotary speaker - Used to amplify and modulate raw organ tones.

calf.sourceforge.net/?id=3

VideoJack

Modification of Jackaudio used to route video signals between applications running on the same computer.

www.piksel.org/videojack

UcvJack

A VideoJack client that can generate a video out connection for all devices supported by unicap.

unicap-imaging.org/vjackplugin.htm

Frei0r

Minimalistic plugin API for video effects.

www.piksel.org/frei0r

Station Automation and Streaming

Airtime

Radio automation software.

www.sourcefabric.org/en/airtime/

Rivendale

Radio automation software.

www.rivendellaudio.org

R4DIT

Radio automation software.

www.radiaudiopro.com

Butt - Broadcast using this tool

Audio streaming tool that supports both ShoutCast and IceCast.

butt.sourceforge.net

VLC

Software application that can be used as a server or as a client to stream and receive multimedia streams.

- IPV4 and IPV6.
- Unicast and Multicast.
- Audio and Video.

www.videolan.org/vlc/

www.videolan.org/streaming-features.html

wiki.videolan.org/Documentation:Streaming_HowTo

Landell

An audio and video streamer that can receive data from several sources. It can source the multimedia to a Icecast server or retain it locally as a file. It uses the Vorbis+Theora codecs.

landell.holoscopio.com

Audio

Audacity

Sound recording and editor application.

audacity.sourceforge.net

Audio cleaning with Audacity.

www.makeuseof.com/tag/remove-ambient-noise-audio-files-audacity/

Ardour

Hard disk recorder and digital audio workstation application.

www.ardour.org

Linux Sampler

This is a digital audio sampler that maps a set of sounds across a MIDI keyboard so that the sounds can be "played". It also can be used to add effects with installed software plugins.

www.linuxsampler.org

The Gnome Wave Cleaner Project

Gnome application that can clean audio files.

gwc.sourceforge.net

Video

Cinelerra

Advanced non linear video editor and compositor.

www.cinelerra.org

Kdenlive

KDE integrated multi track video editor.

www.kdenlive.org

Openshot

Gnome integrated multi track video editor.

www.openshotvideo.com

Lives

Basic video editor.

lives.sourceforge.net

Avidemux

Multi purpose video editing and processing software.

www.avidemux.org

Pitivi

Basic movie editor.

www.pitivi.org

Blender

3D content creation suite.

www.blender.org

GNOME Video Effects

A collection of GStreamer effects to be used in different GNOME Modules.

live.gnome.org/GnomeVideoEffects

WebcamStudio For GNU/Linux

A virtual webcam that can mix several video sources together.

www.ws4gl.org

VideoLAN Movie Creator

A non linear editing software for video creation.

trac.videolan.org/vlmc/

Packages:

vlmc.minus.com

DJ and VJ Software

Internet DJ Console

Source client for streaming live radio shows using Shoutcast or Icecast servers.

idjc.sourceforge.net

Mixxx

DJ software.

www.mixxx.org

Lives

VJ software.

lives.sourceforge.net

lives.sourceforge.net/manual/LiVES_manual.html#section7

Gephex

Modular video jockey software.

www.gephex.org

Veejay

A visual instrument and realtime video sampler.

www.veejayhq.net

Luz

Music visualization studio.

gnomecoder.wordpress.com/luz/

Software download.

launchpad.net/luz/

Freemix

Live video performance software.

freemix.forja.rediris.es

FLxER

Audio video mixing software based on Adobe Flash™ technology.

www.flxer.net/software/flxer/

Quase Cinema

Software for live video editing and presentations.

www.quasecinema.org/QuaseCinema2.html

Manual in English.

www.quasecinema.org/quasecinema/manual/quasecinema_manual_english.pdf

Multimedia Transcoder

Arista

Multi purpose multimedia converter.

www.transcoder.org

Transmageddon

A video transcoder that uses a Gstreamer core.

www.linuxrising.org/transmageddon/

Mencoder

A command line multimedia decoding, encoding and filtering tool.

Package search:

- Fedora
- RedHat
- OpenSuse
- Suse
- RHEL

rpm.pbone.net

- Debian

www.debian.org/distrib/packages

- Ubuntu

packages.ubuntu.com

lincoder

A Java graphical environment frontend for MEncoder.

sourceforge.net/projects/lincoder/

FFmpeg

A command line multimedia decoding and encoding software application.

Package search:

- Fedora
- RedHat
- OpenSuse
- Suse
- RHEL

rpm.pbone.net

- Debian

www.debian.org/distrib/packages

- Ubuntu

packages.ubuntu.com

FFmpegGUI

Graphical environment frontend for Ffmpeg.

sourceforge.net/projects/ffmpegfrontend

Multimedia File Meta Tag Editors

EasyTag

A utility for viewing and editing tags of audio files.

easytag.sourceforge.net

Kid3

A KDE utility for viewing and editing tags for various format audio files.

kid3.sourceforge.net

Jaikoz Audio Tag Editor

A tool that allows the user to organize, edit and correct audio data tags, using the MusicBrainz open license music encyclopedia.

www.jthink.net/jaikoz/

Graphics

GIMP

GNU Image Manipulation Program.

www.gimp.org

GIMP Plugin Registry

Allows authors to list extensions and tips related to The GIMP.

registry.gimp.org

GIMP Plugins For Web Design

- Anti aliasing: Smooth and fix straight lines.
- Adaptive contrast enhancement: Intelligent adjustment of contrast.
- Fourier Transformation: GIMP plugin version of Fourier Transformation.
- Refract/Reflect: Refraction effects to simulate falling water drops.
- Borders: Add borders to image.
- Save for Web GIMP plugin: Find optimal compromise between minimal file size and acceptable quality of image.
- Aqua Bou: Create web buttons in 'Aqua Bou' style easily.
- Chrominium: Create a chrome logo with glow and sparkles.
- Liquid Rescale: Keep the features of the image while rescaling along a single direction.
- Steel Text: Create a text effect that looks like shiny steel (or gold) and a dropshadow.

Photography Plugins For GIMP

- Pandora: Stitch together multiple images to make a panorama.
- Film Grain: Add film grain for a classic feel, to black and white images.
- Copyright Text: Add a copyright text to image.
- FocusBlur: Makes an image out of focus with luminosity and depth.
- Lomo: Make photographs clear, sharp and crisp.
- ISO Noise Reduction: Implements an ISO noise reduction.
- Photo Effects: Various scripts for use with photographs.
- RedEye: Quickly remove red eye effect caused by camera flashes.
- Shadows/Highlights: Eliminate shadows and highlights in photographs.
- Gradient Along Path: Strikes a vector applying a gradient orthogonally to the path.
- Digital IR: Simulate a black and white infrared image.
- GimpPublishr: Publish images to Picassa and Flickr directly from inside GIMP.

GIMP Plugins For Photoshop Like Functionality

- Wavelet Denoise: Reduce noise in each channel of an image separately.
- GREYCstoration: Removes grains or small artifacts (JPEG blocks effect) from images.
- Liquid Rescale: Brings Photoshop's content aware scaling to GIMP.
- Image subdivide: Divide image into specified number of rows and columns and save any part.
- Save for Web: Incorporates a Save for Web feature.
- PSPI: Photoshop plugin wrapper that lets you use Photoshop plugins in GIMP.
- Slice and Merge: Split one image 'file' into smaller 'files', and to recombine it successively.
- Unsharp Mask: Improves on the default unsharp functionality.
- Photo finish: Round photo edges and apply a shadow border.
- Photoshop pattern loader: Load Photoshop PAT patterns set as image in GIMP.
- Soft focus: This script simulates soft focus.
- Watermark: Add text as a watermark into an image.
- Removing timestamp: This script removes the timestamp imprinted on photos by digital cameras.
- Shadowed thumbnail: Create a thumbnail preview of an image with a shadow effect.
- Flash SWF Export: Exports a GIMP image as a Shockwave Flash file.
- Plastiwrap: Script-fu that replicates the Photoshop filter Plastic Wrap.
- Backup: Script that backs up working image.
- Wavelet Decompose: Losslessly decompose an image into different detail scales.
- High quality rescale: Improved upscaling using a new proof-of-concept algorithm.
- Noise generator: Generate different types of visual "noise".

- Pencil drawing from photo: Script to create pencil drawing from photographic image.
- Tear off: Python plugin that crops application screenshots with a jagged “torn-off” appearance.
- GIMP reflection: Extends lower section of an image as a reflection of the original image.
- Pandora: Simplifies the process of stitching together a sequence of panorama images.
- Shadow recovery: Recover image information in dark parts.

GIMP plugin Information provided by:

Free GIMP plugins.

www.techzilo.com/gimp-plugins/

26 GIMP Plugins to get Photoshop’s best features.

www.techzilo.com/download-free-gimp-plugins/

General Tools

DeVeDe

DVD and CD authoring application.

www.rastersoft.com/programas/devede.html

DVDStyler

DVD authoring application.

www.dvdstyler.org/en/

TeleKast

Script editor and teleprompter application.

telekast.sourceforge.net

Skype

A voice over Internet Protocol application that also provides video chat capability.

www.skype.com

Gnu Cash

Personal and small business financial accounting software.

www.gnucash.org

Turbo Cash

Personal and mid sized business financial accounting software.

www.turbocashuk.com

Online Services

Cue Prompter

Free online teleprompter/autocue service. Your browser works like a teleprompter - no extra software needed.

www.cueprompter.com

Easy Prompter

Free, web based, plugin free, browser independent, online and offline teleprompter.

www.easyprompter.com

Screenr

A web based tool that allows the creation of screencasts without installing any software.

www.screenr.com

Screencast-O-Matic

Online screen recorder for one click recording.

www.screencast-o-matic.com

ABC 2 MP3

Free online text to speech conversion. Multiple accents available.

www.abc2mp3.com

From Text To Speech

Free web based text to speech service.

www.fromtexttospeech.com

Cover Creator

CD / DVD online cover creator.

rwtverio.ncte.org/materials/cd-dvd/index.html

DVD Cover Online

Create DVD Cover for instant download.

www.ebookcoveronline.com/DVD/editor.php

Desktop Publishing

Scribus

Professional desktop publishing features, such as color separations, CMYK and Spot Color support, ICC color management, and versatile PDF creation.

www.scribus.net

Libre Office

Personal productivity: Writer, Calc, Impress, Draw, Math and Base.

www.libreoffice.org

Libre Office Extensions

These are software plug ins that are installed as extras to the standard LibreOffice download. They add additional functionality to the suite.

www.libreoffice.org/features/extensions/

Calligra

Productivity suite designed by KDE and created from Koffice.

www.calligra-suite.org

The Open Clipart Library

The largest collaboration community that creates, shares and remixes clipart.

www.openclipart.org

System Software

FreeNAS

Software based Network Attached Storage Server. (Based on FreeBSD.)

www.freenas.org

Open Media Vault

Software based Network Attached Storage Server. (Based on Linux.)

www.openmediavault.org

Alpine Linux

Software based router and firewall.

www.alpinelinux.org

Devil Linux

Software based router and firewall.

www.devil-linux.org

Floppyfw

Software based router with the advanced firewall capabilities.

www.zelow.no/floppyfw/

Freesco

Software based router.

www.freesco.info

IP Fire

Software based firewall.

www.ipfire.org

PFSense

Customized distribution of FreeBSD tailored for use as a firewall and router.

www.pfsense.com

Zeroshell

Software based Router/Bridge Linux firewall.

www.zeroshell.net/eng

BSD Router Project

Software based router. (Based on FreeBSD.)

www.bsdrp.net